

### **REMARKS**

Applicants confirm election of Group I (claims 1-11), with traverse, in a teleconference between Applicants' representative and the Examiner on August 7, 2003. Claims 1-11 are pending. Claims 12-26 have been withdrawn by the Examiner.

#### **Rejections under 35 U.S.C. § 102**

##### **Claims 1-3**

The Examiner has rejected claims 1-3 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,596,278 to Lin ("Lin"). See pages 4-5 of the Office Action. Claim 1 is independent.

Applicants have discovered an alkaline battery including a cathode, an anode, and an alkaline electrolyte. The **cathode includes an active cathode material including lambda-manganese dioxide**. The **anode includes zinc**. The active cathode material has a specific discharge capacity to 0.8V cutoff of greater than 290 mAh/g at a discharge rate of 20 mA/g of active cathode material. See independent claim 1.

The Examiner contends that "Lin teaches the same Zn/MnO<sub>2</sub> battery comprising a positive electrode which contains a lambda MnO<sub>2</sub>" in which "inherently the same active cathode material having a specific discharge rate to 0.8V cutoff of greater than 290, 300 or 310 mAh/g at a discharge rate of 20 mA/g of active material must also be obtained." See page 4 of the Office Action.

However, there is nothing in Lin that describes an alkaline battery including a cathode including lambda-manganese dioxide, an anode including zinc, and an alkaline electrolyte. Lin describes a condition indicator assembly, or tester, which displays the condition of a main cell or battery. See column 2, lines 18-20 of Lin. The condition indicator includes an indicator cell **20** and auxiliary cell **25**. See column 2, lines 20-22 and 47-49, and Figure 1. The main cell is exemplified as being a "conventional Zn/MnO<sub>2</sub> (1.5 volt) AA alkaline cell." See column 8, lines 49-50 of Lin. However, this conventional Zn/MnO<sub>2</sub> AA alkaline cell does not include lambda-manganese dioxide. The indicator cell **20** in Lin is described as being an Ag/lambda MnO<sub>2</sub> electrochemical cell, which has a silver anode and a manganese dioxide cathode. See column 4,

lines 54-66, column 6, lines 57-60, column 8, lines 53-55 and column 10, lines 1-14 of Lin. The Ag/ $\lambda$  MnO<sub>2</sub> electrochemical cell includes lithium trifluoromethanesulfonylimide and silver trifluoromethanesulfonylimide as an electrolyte. See column 9, lines 4-6 of Lin. This cell has an open circuit voltage of about 0.5 volts. See column 10, lines 13-14 of Lin. Thus, the cell described by Lin that includes  $\lambda$  manganese dioxide in the cathode has an anode including silver, a trifluoromethanesulfonylimide electrolyte, and an open circuit voltage of 0.5 volts. Accordingly, the  $\lambda$  manganese dioxide-containing cell described in Lin is not an alkaline battery including a cathode including  $\lambda$ -manganese dioxide, an anode including zinc, and an alkaline electrolyte.

Thus, Lin does not anticipate independent claim 1, or claims that depend therefrom. Applicants respectfully request reconsideration and withdrawal of this rejection.

**Rejections under 35 U.S.C. § 103**

**Claims 1-3**

The Examiner has rejected claims 1-3 under 35 U.S.C. § 103(a) as being obvious over Lin. See pages 4-5 of the Office Action. Claim 1 is independent.

As discussed above, Applicants have discovered an alkaline battery including a cathode including  $\lambda$ -manganese dioxide, an anode including zinc, and an alkaline electrolyte. See independent claim 1. Lin does not describe an alkaline battery including a cathode including  $\lambda$ -manganese dioxide, an anode including zinc, and an alkaline electrolyte. Lin also does not suggest such a cell. Nothing in Lin teaches or suggests that the manganese dioxide used in the indicator cell **20** can be used in the main cell, which is a conventional Zn/MnO<sub>2</sub> AA alkaline cell. Lin does not teach a person of ordinary skill in the art to modify a conventional Zn/MnO<sub>2</sub> AA alkaline cell in any way, and certainly does not motivate or suggest that  $\lambda$ -manganese dioxide could be used in an alkaline zinc cell. Without such a teaching or motivation, Lin cannot render independent claim 1 obvious.

Thus, for at least these reasons, independent claim 1, and claims that depend therefrom, are patentable over Lin. Applicants respectfully request reconsideration and withdrawal of this rejection.

### Claims 6-8

The Examiner has rejected claims 6-7 under 35 U.S.C. § 103(a) as being unpatentable over Lin in view of U.S. Patent No. RE 30,458 to Uetani *et al.* ("Uetani"). See page 5 of the Office Action. The Examiner has also rejected claims 6-8 as being unpatentable over Lin in view of JP 1-120767 to Nagaura *et al.* ("Nagaura"). See page 6 of the Office Action. Claims 6-7 depend from independent claim 1. Claims 6-8 depend from independent claim 1.

The Examiner relies on Uetani for teaching a manganese dioxide having "a BET surface area of about 30 to 120 m<sup>2</sup>/gram" (see page 5 of the Office Action) and Nagaura for teaching a manganese dioxide having "a specific surface area of 34-56 m<sup>2</sup>/g" (see page 6 of the Office Action). Neither Uetani nor Nagaura cure the deficiencies of Lin discussed above. Specifically, neither Uetani nor Nagaura teach or suggest including lambda-manganese dioxide in a cathode of an alkaline battery having an anode including zinc and an alkaline electrolyte. Moreover, there is no motivation to combine the teachings of Lin, which is directed to a battery tester, with the teachings of Uetani or Nagaura, which are directed toward batteries. Indeed, the Examiner has not provided any motivation to combine these references.

Combinations of Lin with Uetani or Nagaura do not teach or suggest an alkaline battery including a cathode including lambda-manganese dioxide, an anode including zinc, and an alkaline electrolyte. Thus, independent claim 1, and claims that depend therefrom, are patentable over combinations of Lin with Uetani or Nagaura. Applicants respectfully request reconsideration and withdrawal of these rejections.

### Rejection under 35 U.S.C. § 112, second paragraph

Claims 4-5 and 9-11 have been rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. See page 3 of the Office Action. The Examiner has objected to the phrase "the lambda-manganese dioxide is heated to a temperature of ..." in claims 4, 5 and 9, and contends that "because these claims depend on a product claim and these claims do not further limit claim 1 from which the claims depend..." See page 3 of the Office Action. Applicants respectfully disagree. A person of skill in the art would understand that claims 4-5

Applicant : William A. Bowden et al.  
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and 9-11 require something more than independent claim 1, which does not include the phrase "the lambda-manganese dioxide is heated to a temperature of ...." This additional description further limits the characteristics of the lambda-manganese dioxide of claims 4, 5, and 9-11.

Accordingly, Applicants respectfully request reconsideration and withdrawal of this rejection.

### CONCLUSION

Applicants believe that the application is in condition for allowance, and such action is requested. However, in order to expedite prosecution of this case, Applicants' representative is more than willing to discuss any of the Examiner's remaining concerns or issues, and can be reached at 202-783-5070.

Please apply any charges not covered, or any credits, to Deposit Account 06-1050.

Respectfully submitted,

Date: 12-29-03

  
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